APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,157	12/19/2000	Naoko Iwami	16869C-016600US	9696

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER
ZHONG, CHAD

ART UNIT	PAPER NUMBER
2152	

. DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/742,157	IWAMI ET AL.
	Examiner	Art Unit	
	Chad Zhong	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*14 March 2005*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*23-33*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*23-33*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

FINAL ACTION

1.   This action is responsive to communications: Amendment, filed on 03/14/2005. This action has

been made final.

2.   Claims 23-33 are presented for examination. In amendment A, filed on 03/14/2005:

claims 1-22 are cancelled.

claims 23-33 are newly presented.

3.   Applicant's remarks filed 03/14/2005 have been considered but are moot in view at the new

grounds of rejection necessitated by Applicant's amendment.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such
> that the subject matter as a whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in
> which the invention was made.

5.   Claims 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable by Chawla et al.

(hereinafter Chawla), US 6,876,668.

6.   As per claim 23, Chawla teaches a storage system comprising:

an array of media for storing information (item 210-A1, Fig 3), the array being coupled by data paths

to a communication link (Fig 3, see links between 201-c and 210, between 201D and 210-A2), and

thereby to a host system (Fig 3, item 210, 210-A2), wherein the host system establishes communications

with the storage system using the communication link and the data paths (communication takes places

between the network machines); and

wherein the storage system allocates the data paths (Fig 5, item 552, 553; Col. 12, lines 10-15, lines

25-35, wherein "A" video stream is allocated if there is enough bandwidth available) based upon a data

rate capability of the data paths to thereby provide a desired quality of service (Col. 12, lines 10-15, lines

25-35, wherein the desired QoS is 100 Kbps).

Chawla does not explicitly teach an array of media, however it would have been obvious to the

person ordinary skilled in the art to put an array of disks in item 210-A1.

7.   As per claim 24, Chawla teaches a storage system as in claim 23 wherein the array of media

includes media having different operational characteristics (Col. 12, lines 10-15, wherein each stream has

different bandwidth requirements), and wherein the storage system allocates individual ones of the media

to individual ones of the data paths to provide the desired quality of service (Col. 12, lines 25-35, lines

60-67, wherein the desired QoS path is assigned and path is selected).

8.   As per claim 25, Chawla teaches a storage system as in claim 23 wherein a processor in the host

system establishes a data path between the storage and the network connection (Col. 5, lines 25-30);

the data path being assigned a sufficient data speed to accommodate the desired quality of service (Col.

12, lines 60-67).

9.   As per claim 26, Chawla teaches a storage system as in claim 24 wherein the array of media

comprise hard disk drives (Fig 210-A1, wherein the host contains hard disk drives; Col. 19, lines 30-31),

and the different operational characteristics comprise different speeds of operation (Col. 19, lines 30-31).

10.   As per claim 27, Chawla teaches a storage system as in claim 24 wherein the storage system

allocates ones of the array of media based upon a data rate capability of the media (Col. 12, lines 10-15)

and a data rate capability of the communication link (Col. 12, lines 60-65).

11.   As per claim 28, Chawla teaches a storage system as in claim 24 wherein the desired quality of

service comprises a specified bandwidth (Col. 12, lines 11-12) and wherein the storage system allocates

individual ones of the media based upon the guaranteed bandwidth (Col. 12, lines 60-67; Col. 14, lines

40-50).

12.   As per claim 29, Chawla teaches an storage system comprising:

        an array of storage media (Fig 3, item 210-A1); and

        a network connection operable to connect to the array with a desired quality of service (Fig 3, item

210-A1, 203, 201-B);

        a plurality of data paths (Fig 3, item 202) coupling the network connection to the array, wherein a

data path between the array and the network connection is selected to provide sufficient data speed to

accommodate the desired quality of service (Col. 12, lines 60-67).

        Chawla does not explicitly teach an array of media, however it would have been obvious to the

person ordinary skilled in the art to put an array of disks in item 210-A1.

13.   As per claim 30, Chawla teaches a method for allocating resources in a storage system, the

storage system comprising an array of storage devices coupled to a network connection by data paths (Fig

3, item 210-A), the method comprising:

        establishing a data path between the array and the network connection (Fig 3, see the network

connections);

        the data path being selected to provide a sufficient data speed based upon data capacity of the

storage (Col. 19, lines 30-32, wherein the size and speed of the disk among others are used to determine

the availability of the device) and data rate capability of the network connection (Col. 12, lines 60-67);

and

selecting ones of the array based upon the data capacity and the data rate capability of the network

connection (Col. 19, lines 30-32; Col. 12, lines 60-67, wherein the device is selected to guaranteed QoS

only when the criteria are fit).

Chawla does not explicitly teach an array of storage devices, however it would have been obvious to

the person ordinary skilled in the art to put an array of disks in item 210-A1.

14.   As per claim 31, Chawla teaches the method of claim 30 wherein the step of establishing the data

path comprises assigning a data path having a sufficient data speed to accommodate the desired quality of

service (Col. 12, lines 60-67).

15.   As per claim 32, Chawla teaches the method of claim 30 wherein the step of establishing a data

path comprises searching for unallocated data communications resources to accommodate a data capacity

of the array (Col. 12, lines 60-67; Col. 19, lines 40-45; Col. 20, lines 55-65).

16.   As per claim 33, Chawla teaches the method of claim 30, wherein the step of selecting ones of the

array comprises searching for unallocated ones of the array having a sufficient data capacity to match a

data rate capability of the network connection (Col. 12, lines 60-67).

Conclusion

17.   **THIS ACTION IS MADE FINAL.** The newly added claims have changed the scope of the

original claims. Applicant is reined of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this

final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents and publications are cited to further show the state of the art with respect to

"guaranteed Data Access Speed for a Storage System".

    i.   US 6795865   Bahl et al.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Chad Zhong whose telephone number is (571)272-3946. The examiner can normally be

reached on M-F 7:15 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

BURGESS, GLENTON B can be reached on (571)272-3949. The fax phone number for the organization

where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

CZ
June 8, 2005